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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/750,386	12/27/2000	John S. Sadowsky	42390P9858	6353
8791	7590	04/04/2006	EXAMINER	
BLAKELY SOKOLOFF TAYLOR & ZAFMAN 12400 WILSHIRE BOULEVARD SEVENTH FLOOR LOS ANGELES, CA 90025-1030			PATHAK, SUDHANSHU C	
			ART UNIT	PAPER NUMBER
			2611	

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/750,386	Applicant(s) SADOWSKY, JOHN S.	
	Examiner Sudhanshu C. Pathak	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on March 9th, 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 and 25-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on July 14th, 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-23 and 25-27 are pending in the application.
2. Claim 24 has been canceled.

Response to Arguments

3. Applicant's arguments with respect to claims 1-23 and 25-27 have been considered but are moot in view of the new ground(s) of rejection.
4. Furthermore, in regards to the arguments that "... Pellon does not teach or suggest decoding communication bits in a received signal because it is the characteristic of IF signal itself that Pellon is interested in directly converting to digital form..." i.e. Pellon does not teach encoding information into RF or IF signals for delivery. This is incorrect, Pellon does teach encoding information into RF or IF signals for delivery (Column 19, lines 11-20) wherein the digital data is encoded as in-phase and quadrature components.
5. In regards to the 112 1st, Paragraph rejection the amendment does not address this rejection and therefore it is maintained.
6. In regards to the specification objection regarding "Brief Summary of the Invention", the amendment does not address this objection and is therefore is maintained.
7. In regards to the Drawing objections, this objection has been maintained.

Specification

8. Applicant is reminded of the proper content(s) of the disclosure.

Content of Specification

- (a) Title of the Invention
- (b) Cross-References to Related Applications
- (c) Statement Regarding Federally Sponsored Research and Development
- (d) Incorporation-By-Reference Of Material Submitted On a Compact Disc
- (e) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention
 - (2) Description of the Related Art
- (f) Brief Summary of the Invention
- (g) Brief Description of the Several Views of the Drawing(s)
- (h) Detailed Description of the Invention
- (i) Claim or Claims
- (j) Abstract of the Disclosure

Drawings

9. Fig. 2 discloses element "57" to be a filter (Specification, Page 7, lines 13-14),

however the symbol used in the figure to represent the element "57" is an amplifier.

Corrective Action is required.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

11. Claims 7-9 & 16 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one

skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding to Claims 7-9 & 16, the claims disclose a local oscillator coupled to the modulator, the specification discloses this in Fig. 2 and Specification, Page 9, lines 16-23, however it is not clear as to how in a 1bit A/D converter the ASK modulator may reduce to a BPSK modulator. Furthermore, it is not clear as to what (how) the local oscillator signal is implemented in the ASK modulator. The specification makes no mention of this.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-4, 10-12, 14, 17-21, 23 & 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pellon (5,392,042).

Regarding to Claims 1-4, 10-12, 14, 17-21, 23 & 25-27, Pellon discloses a portable communication device (Column 1, lines 15-22 & Column 11, lines 12-20 & Column 20, lines 20-40) comprising an analog-to-digital converter to provide a digital output signal (Fig. 2a, element 210 & Column 3, lines 3-19 & Column 4, lines 27-43); a signal generator coupled to the digital output signal to generate a feedback signal (Fig. 2a, elements 218, 206, 201b & Column 3, lines 9-14 & Column 4, lines 7-48 & Column 12, lines 29-38); and wherein the portable communication device is adapted

to subtract the feedback signal from an intermediate frequency (IF) signal (Fig. 2a, elements 202, 254, 206, 201b, 203 & Fig. 10, elements 1026, 700 & Column 2, lines 51-68 & Column 11, lines 16-18 & Column 20, lines 26-40 & Column 21, lines 40-51). Pellon also discloses the portable communication device further comprising a filter adapted to provide a filtered signal with a bandwidth, wherein the signal generator generates a feedback signal that reduces the difference between the IF signal and the feedback signal over at least a portion of the bandwidth of the filtered signal (Abstract, lines 1-18 & Fig. 2a, element 204, 202 & Column 1, lines 35-50 & Column 2, lines 51-68 & Column 3, lines 3-5 & Column 4, lines 7-21 & Column 5, lines 63-68 & Column 11, lines 11-20 & Column 12, lines 12-29 & Fig. 10, elements 1024, 1026, 700 & Fig. 7a & Column 20, lines 20-60). Pellon also discloses the portable communication device further comprising an integrator coupled to receive the subtracted signal (Fig. 2a, element 204 & Fig. 2b & Column 2, lines 57-68 & Column 3, lines 20-38 & Column 7, lines 14-40). Pellon further discloses in radar applications wherein the received signals are heterodyned from a higher center frequency down to baseband and then converted from analog to digital domain to produce digital in-phase and quadrature components (Column 19, lines 11-20). Pellon also discloses the portable communication device further comprising an antenna adapted to receive a radio frequency signal (Fig. 10, element 1020), and the received RF signal is converted to an IF signal inputted into the apparatus (Fig. 10, elements 1024, 1026, 700). Pellon also discloses the portable communication device further comprising a storage medium having stored instructions to execute

the processing of the received signal (Fig. 10, element 1030). However, Pellon does not explicitly disclose a multiplier to extract an in-phase part of the IF signal.

However, it would have been obvious to one of ordinary skill in the art at the time of the invention that Pellon teaches down converting (heterodyning) the received signals from RF to baseband and further converting extracting the in-phase and quadrature components this function is implemented by a multiplier (mixer) in a receiver, furthermore in a heterodyne receiver the RF signal is first down converted into a IF signal and then into a baseband signal (I/Q) and then sampled to go from an analog signal into a digital signal. Therefore, the multiplier is implemented in the feedback loop, after the subtractor, of the analog-to-digital converter wherein the IF signal is first down converted to a baseband signal and then sampled. Furthermore the integrator is implemented after the down converter so as to remove the mixing (harmonics) noise.

14. Claims 5-6, 15 & 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pellon in view of Sklar (Sklar, B; Digital Communications, Fundamentals and Applications; Chapter 3, Page 128-129; Copyright 1988, Prentice Hall).

Regarding to Claims 5-6, 15 & 22, Pellon discloses a portable communications device comprising an analog-to-digital converter to provide a digital output signal; a signal generator coupled to the digital output signal to generate a feedback signal; and wherein the portable communication device is adapted to subtract the feedback signal from an intermediate frequency (IF) signal; and a multiplier to extract an in-phase part of the IF signal after subtraction of the feedback signal as described

above. However, Pellon does not specify the signal generator to be a modulator and wherein the signal generator further comprises an amplitude shift key modulator.

Sklar discloses that an ASK modulator which functions as an On-Off keying modulator (Page 129, Fig. 3.5 ©). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Sklar teaches implementing an ASK modulator as a switching device and this is analogous to the switching device as described in Pellon, thus satisfying the limitation of the claim.

15. Claims 7, 9, 13 & 16, are rejected under 35 U.S.C. 103(a) as being unpatentable over Pellon in view of Sklar (Sklar, B; Digital Communications, Fundamentals and Applications; Chapter 3, Page 128-129; Copyright 1988, Prentice Hall) in further view of Ko et al. (6,577,674).

Regarding to Claims 7, 9, 13 & 16, Pellon in view of Sklar discloses a portable communications device comprising an analog-to-digital converter to provide a digital output signal; a signal generator coupled to the digital output signal to generate a feedback signal wherein the signal generator further comprises a modulator; and wherein the portable communication device is adapted to subtract the feedback signal from an intermediate frequency (IF) signal so as to reduce the difference between the received IF signal and the feedback signal as described above. Pellon further discloses the ADC resolution (number of output bits) can vary depending on the sampling rate to reduce quantization noise (Column 1, lines 65-68 & Column 2, lines 1-15 & Column 4, lines 11-25 & Column 6, lines 36-58). However, Pellon in

view of Sklar does not disclose a multiplier adapted to multiply a local oscillator and the received signal.

Ko discloses a receiver in a mobile station comprising a multiplier and a local oscillator (Fig. 1) wherein the incoming signal is down converted to a baseband signal for further processing and retrieving the transmitted data (message) (Fig. 1 & Column 2, lines 26-48). Ko further discloses further sampling the down converted signal for digitally processing the received signal for accurate retrieval (Fig. 1 & Column 2, lines 1-65). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that it is possible to implement the multiplier and local oscillator as described in Ko in the receiver as described in Pellon in view of Sklar so as to further down convert the bandpass filtered IF frequency signal to baseband for accurate sampling and demodulating and this also couples the oscillator to the signal generator which is in the feedback loop. Furthermore, coupling the local oscillator to the modulator can be implemented so as to upconvert the baseband signal to the IF frequency in the feedback loop as described in Pellon in view of Sklar, thus satisfying the limitations of the claims.

Conclusion

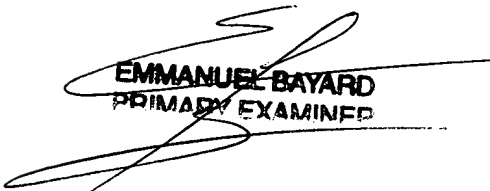
16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sudhanshu C. Pathak whose telephone number is (571)-272-3038. The examiner can normally be reached on M-F: 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571)-272-3042.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sudhanshu C. Pathak
Examiner
Art Unit 2611



EMMANUEL BAYARD
PRIMARY EXAMINER